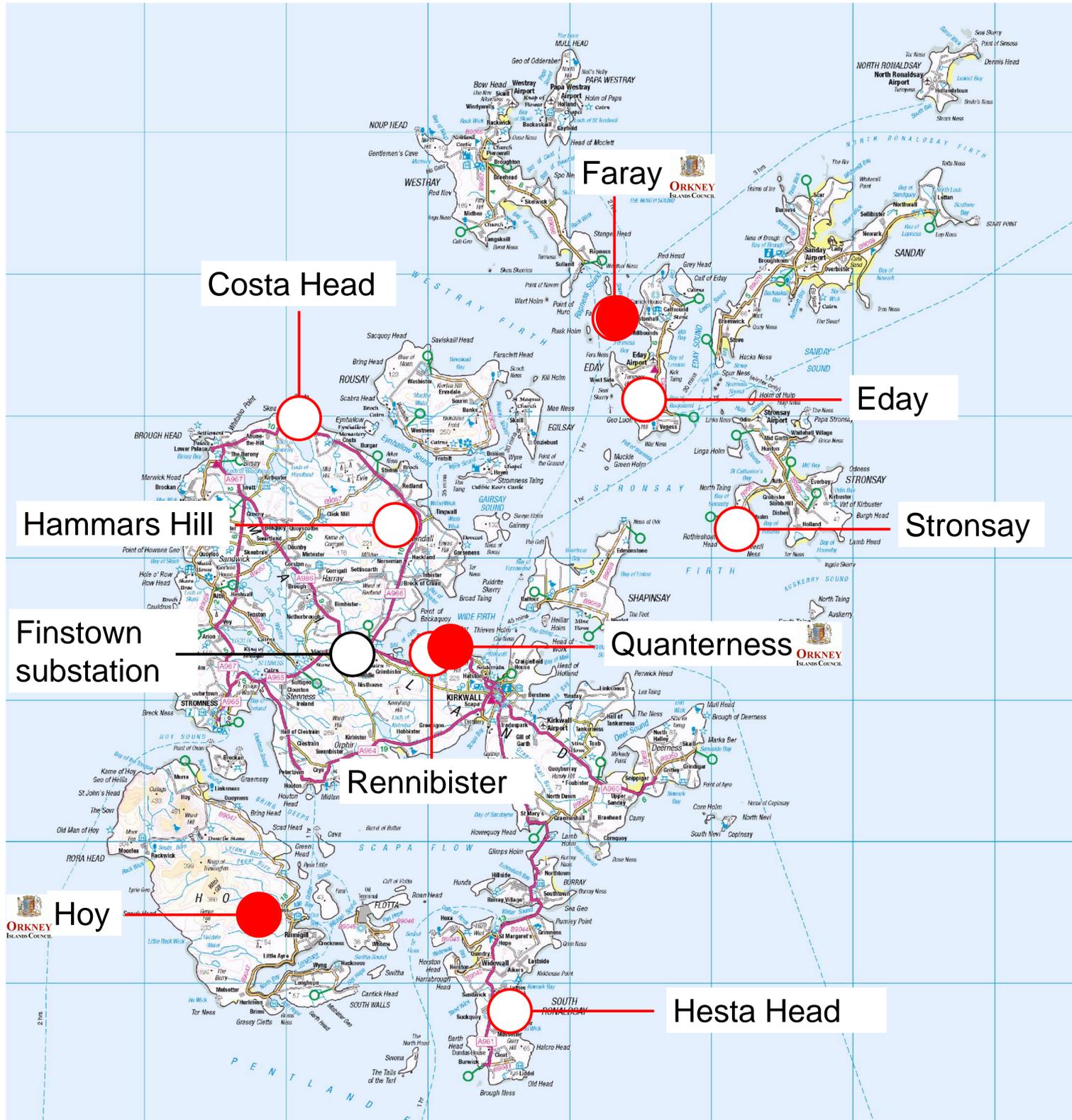




# What is Orkney's Community Wind Farm Project?



Reproduced by permission of Ordnance Survey on behalf of HMSO. ©Crown copyright and database right 2019. All rights reserved. Ordnance Survey License number 100021621.

Wind Farms under investigation

- The project is seeking to develop wind farms in Orkney with the aim of:
  - ✓ Generating income from publicly owned wind energy projects to support services for local communities.
  - ✓ Supporting the Needs Case for a new cable for Orkney to open up wider economic development opportunities for the energy industry, including marine energy.
  - ✓ Ensuring that the local benefits from a new cable are maximised.
  - ✓ Making the most of our resources.
- Development activity is being funded from the Council's Strategic Reserve Fund.
- Three sites are under consideration.

**Faray**  
Six turbines  
150m tip-height  
~28MW total  
Council owned land

**Hoy**  
Six turbines  
150m tip-height  
~28MW total  
Council/privately owned land

**Quanterness**  
Six turbines  
150m tip-height  
~28MW total  
Privately owned land



# What are the benefits for Orkney?

## Income and community benefits



Council-owned wind farms would have the potential to **generate a significant income every year** helping us tackle the twin challenges of budget reductions and an increasing demand for public services.



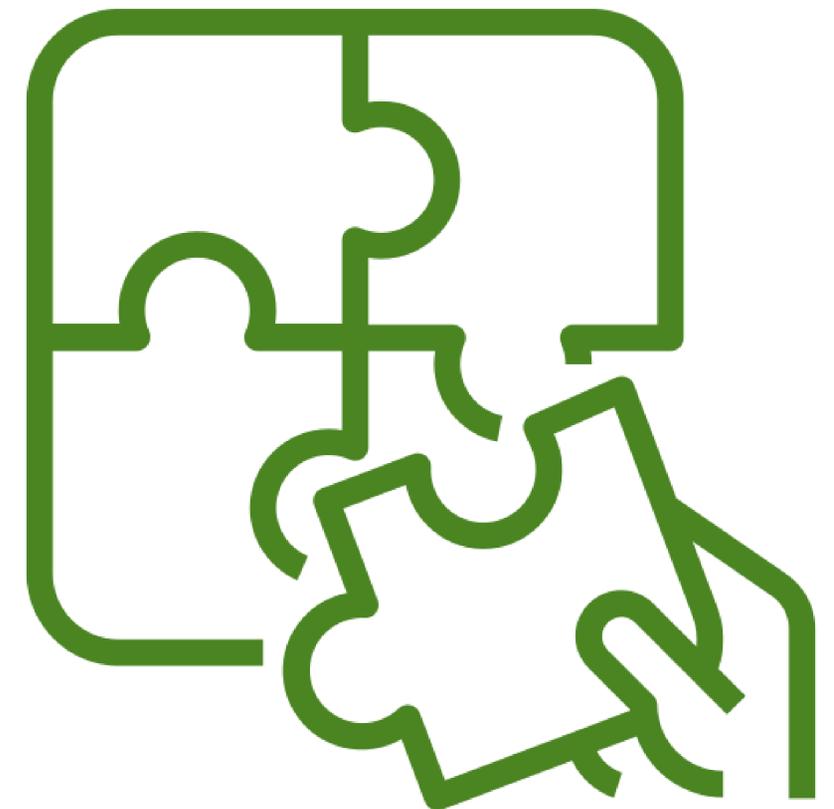
As well as creating jobs through development, build, and operation, **all profit would stay in Orkney**. This money could be spent to:

- **Preserve and enhance Orkney services** like social care, education, roads and transport.
- Deliver a **community benefit scheme**.

## How would the community benefit scheme be structured?

The Council has now agreed a set of guiding principles for community benefit. These include:

- **The key purpose of Orkney's Community Wind Farm Project is to generate profit to be used for the benefit of the people of Orkney.**
- This will be done via a 'Community Fund' to be used **in the interests of Orkney and its inhabitants.**
- The project will be financed in such a way that we can achieve profit which can be used for community benefit **as soon as reasonably practicable.**
- It won't be possible for private individuals to take a shareholding in any project.
- As the communities located closest to projects will be impacted most by developments these communities will get **a 'location-specific community benefit payment'**. We'll be consulting separately on this.





# What are the benefits for Orkney?

## Securing a new cable



OFGEM has now conditionally approved SSEN proposals to build a 220MW interconnector linking Orkney with the Scottish mainland. Approval is dependent on **at least 135 MW** of new wind farm projects in Orkney either being awarded a Contract for Difference (CfD) or **being judged 'likely to be developed' by December 2021**.



**'Likely to be developed'** means that the project should;

- be financially viable
- have signed a relevant grid connection agreement
- have planning permission



By developing these wind farms we can join other local developers in **meeting these requirements** giving Orkney more chance of getting the cable and all the benefits it will bring.

## Creating a carbon neutral future



In our Council Plan we have a target outcome for, “A vibrant **carbon neutral** economy which supports local businesses and stimulates investment in all our communities” and in May 2019 we joined organisations around the world in declaring **a climate emergency**.



The targets Orkney can contribute to are:

- Net-zero greenhouse gas emissions in **Scotland** by 2045.
- Net zero greenhouse gas emissions in **the UK** by 2050.
- To meet these targets, emissions from **homes, transport, farming and industry** will have to be addressed.



Orkney produced 120% of its electricity needs in 2017/18, but there is still so much more we can do to **decarbonise** our agriculture, heating, and transport.



# Why have we chosen these particular sites?

## ■ Constraints

- ✓ There are limited options for wind farm development sites in Orkney due to the spread of houses and designated areas for wildlife.
- ✓ Some of the feasible sites are being developed by private companies.

## ■ Timing

- ✓ We looked for sites that had realistic potential of reaching planning determination by the end of 2020 – we now have until 2021.

## ■ Scale

- ✓ We need enough Orkney projects to trigger the cable.
- ✓ We need wind farms that are big enough to be financially viable under a low/zero subsidy environment.

## Hoy

This area was originally chosen as the largest area away from homes and designated sites with the potential for 100MW. Initial scoping and bird surveys showed that the site could more realistically offer ~28MW.

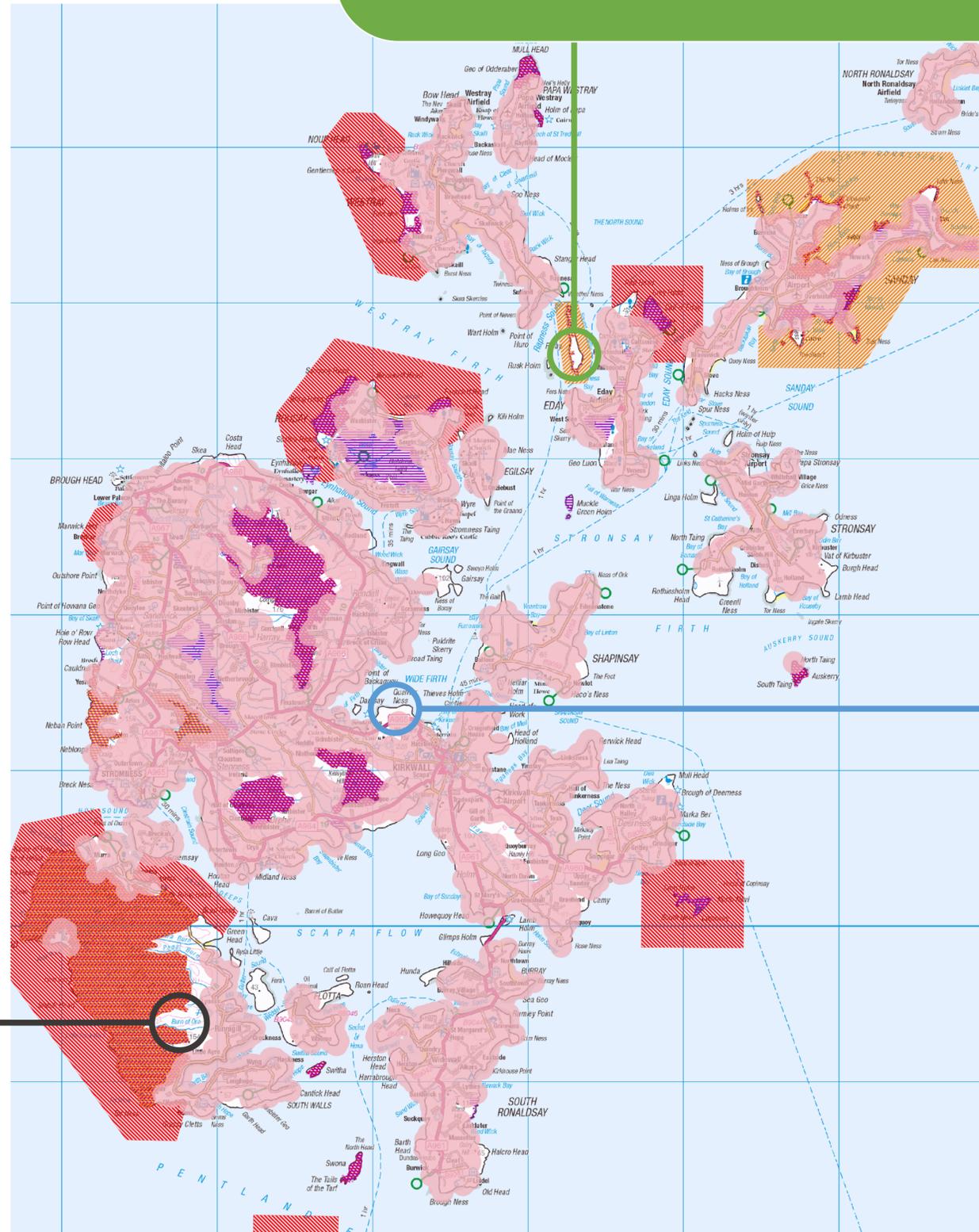
## Faray

This uninhabited island was bought by the Council in January 2019 for its strategic development potential. Initial analysis indicated significant potential for wind farm development.

## Quanterness

This site has practical advantages and requires less survey work than other sites because it is the least ecologically sensitive.

Because Quanterness is close to Kirkwall, it could also enable a separate project in which the Council could directly supply electricity to its own buildings as a means to reduce costs.





# What will be included on the site?



## Wind farm components



- ✓ Six turbines of up to 149.9m tip height.
- ✓ Permanent hardstandings for putting up and maintaining the turbines.
- ✓ An onsite substation and maintenance building.
- ✓ Permanent met mast.
- ✓ Underground cables between the turbines.

## Construction components



- ✓ A temporary compound for machinery and material storage during the construction period.
- ✓ Temporary laydown areas next to the turbines for use during construction.
- ✓ Potential excavations/borrow workings.
- ✓ Upgrade to pier facilities (to be covered under separate application to Marine Scotland).

## Grid connection



- ✓ Power generated from the turbines would be transferred via underground cables to the onsite substation(s) before onward transmission to the National Grid. Offsite infrastructure to connect the onsite substation(s) to the National Grid would be subject to a separate design and consenting process.



# How could turbines be delivered to Faray?

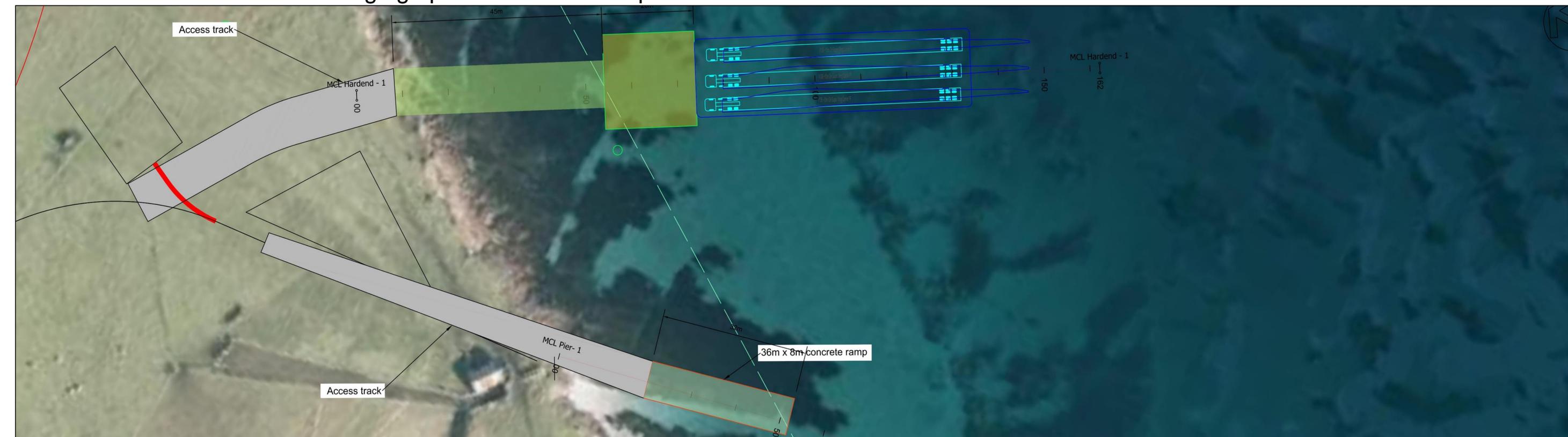
We are in discussion with turbine manufacturers and Marine Scotland on the potential pier structure for this development. Our current proposal is two stage.

## Stage 1 – Slip replacement

- The initial equipment for the preliminary site works and pier refurbishment will be delivered to the site by landing craft.
- A new extended slipway will be constructed in the location of the current slipway to match other slipways in Orkney.
- Materials for construction will be sourced on site where possible. Other materials will be transported from Hatston, with concrete mixed on Faray.
- Upon completion of the slipway, all further materials and goods could be brought in via the new slip, apart from abnormal loads like the turbine components.

## Stage 2 – Blunt-end pier

- Due to the dimensions of the turbine components a slipway is unsuitable for delivery, a blunt end pier has been designed which will accommodate vessels which will transport the turbine blades.
- The square structure for docking will be constructed on site from sheet piles.
- The link from shore to the blunt end will be in-filled and capped-off with concrete batched onsite .
- It is assumed that minor dredging operations will be required to form the foundations.

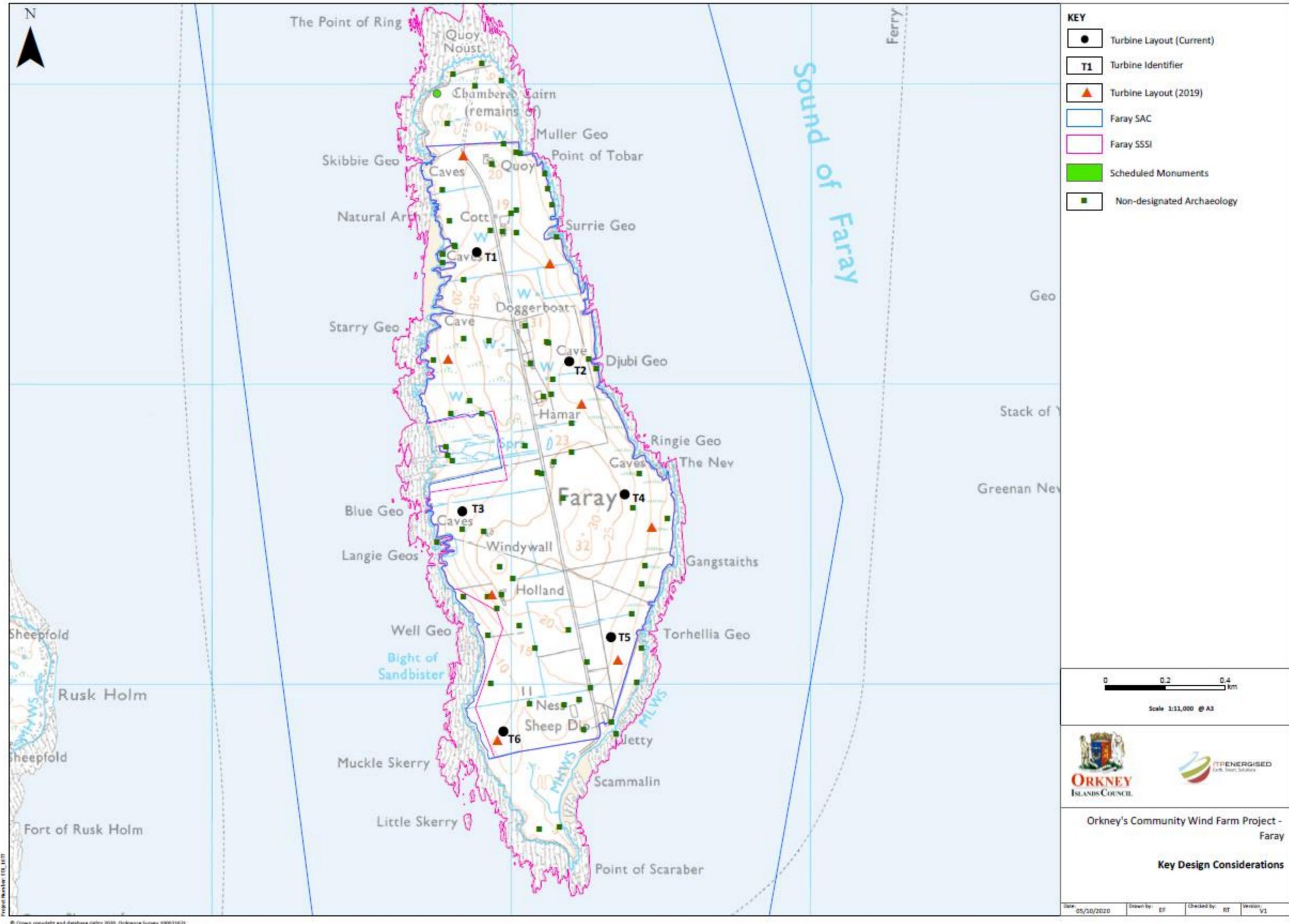




# What are the key design considerations?

Several factors are being considered in the ongoing site design process. These include (but are not limited to):

- Landscape and visual amenity
- Noise
- Shadow flicker
- Ornithology
- Terrestrial ecology
- Hydrology
- Archaeology & cultural heritage
- Telecommunication links
- Transport
- Aviation
- Engineering
- Wind resource and turbine spacing





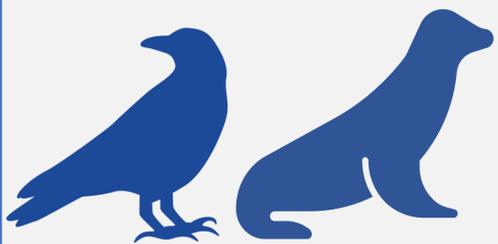
# What are the key design considerations?

## Landscape & Visual



- The site is being designed with due consideration of landscape designations. Care is being taken to minimise impacts.
- We have considered visual impact through the site selection and continue to factor it into the ongoing design process.
- Maintaining a sizable separation distance from residential properties helps to reduce potential impacts on visual amenity. The closest property to the area being considered for turbine development is c.1.6km.
- Consultation has been undertaken with NatureScot and Orkney Islands Council (OIC).
- The EIA will include a robust assessment of potential landscape and visual impacts.

## Ecology & Ornithology



- Wind farm developments can affect wildlife and birds both during construction and operation and it is therefore important that the potential impacts are fully assessed. Consequently, a suite of ecology and ornithology surveys have been undertaken. The results of these surveys will strongly influence the final design, with turbines being positioned to minimise potential impacts.
- The construction program will also be designed to be sympathetic to ecology and ornithology. With this in mind, we are proposing that no construction takes place from mid-September to mid-November (i.e. during Grey seal pupping season).
- Consultation is ongoing with NatureScot.



# What are the key design considerations?

## Archaeology & Cultural Heritage



- Heritage assets on Faray have been considered, with turbines being positioned away from the Chambered Cairn at the north of the island.
- Potential impacts are being taken into account in the ongoing design process, and will be considered as part of the EIA
- Consultation is ongoing with Historic Environment Scotland and OIC.

## Noise



- The closest property to the area being considered for turbine development is c.1.6km. This separation distance will help to ensure levels during operation will remain within the guidance thresholds.
- Background noise surveys have been undertaken in agreement with the Environmental Health Officer at OIC.

## Transport and traffic, plus site specific



- A detailed analysis of the expected logistical requirements will be undertaken. This will consider the increased traffic levels during construction.
- We will agree a Construction Traffic Management Plan with Roads Services.
- During the design process telecommunications operators have been consulted to ensure turbines are positioned in locations that will not interfere with any links.
- The potential for shadow flicker effects is limited given the separation from residential properties.



# Where are we at in the process and how can you make your views known?

Site selection



Scoping – we submitted a scoping report, which helped to define the scope of the Environmental Impact Assessment



Environmental Impact Assessment report which takes into account environmental surveys, desk-based assessments and consultation.

We would be grateful for your opinions and views on the development. We will take these into consideration when finalising the design of the development.

Submission of the application, with information publicly available. We hope to do this in the coming months, submitting to the planning authority.

Once the application has been submitted, you can submit your letter of support or objection to Orkney Islands Council's Planning department – or the Scottish Government if they handle it instead.

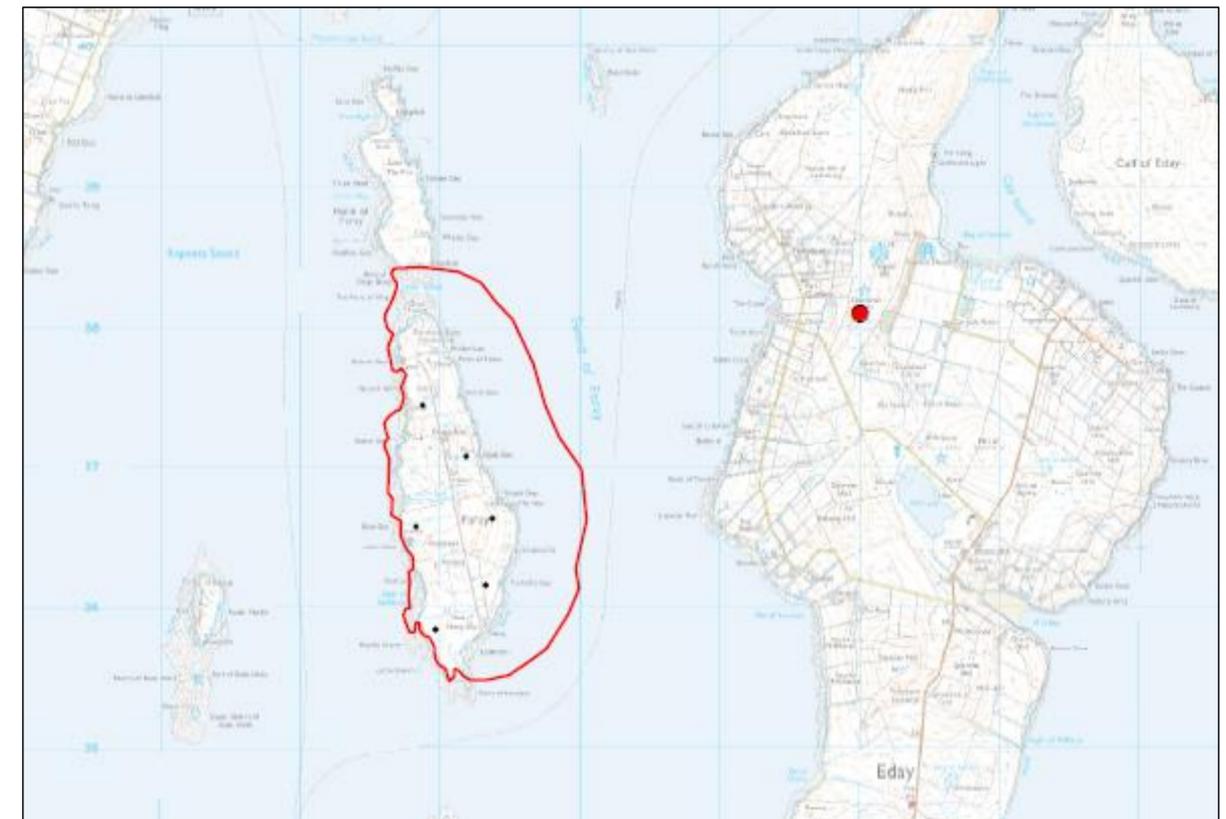
Determination of application. It may be that the Scottish Government has a role to play at this stage.



# View from Vinguoy Hill, Eday



**OS reference:** 356011, 1038103  
**Eye level:** 73.26m AOD  
**Direction of view:** 246°  
**Nearest turbine:** 2.999km  
**Horizontal field of view:** 53.5° (planar projection)

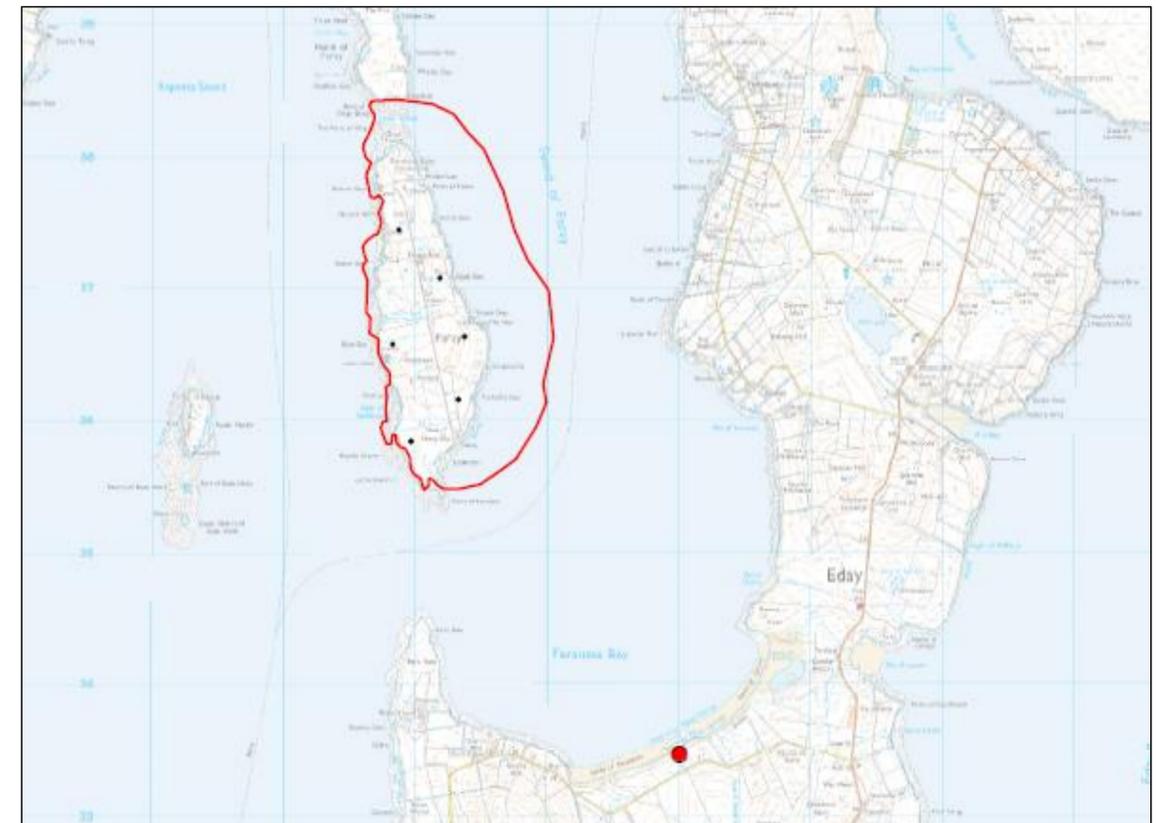




# View from Sand of Mussetter, Eday



**OS reference:** 355011, 1033466  
**Eye level:** 20.45m AOD  
**Direction of view:** 326°  
**Nearest turbine:** 3.128km  
**Horizontal field of view:** 53.5° (planar projection)

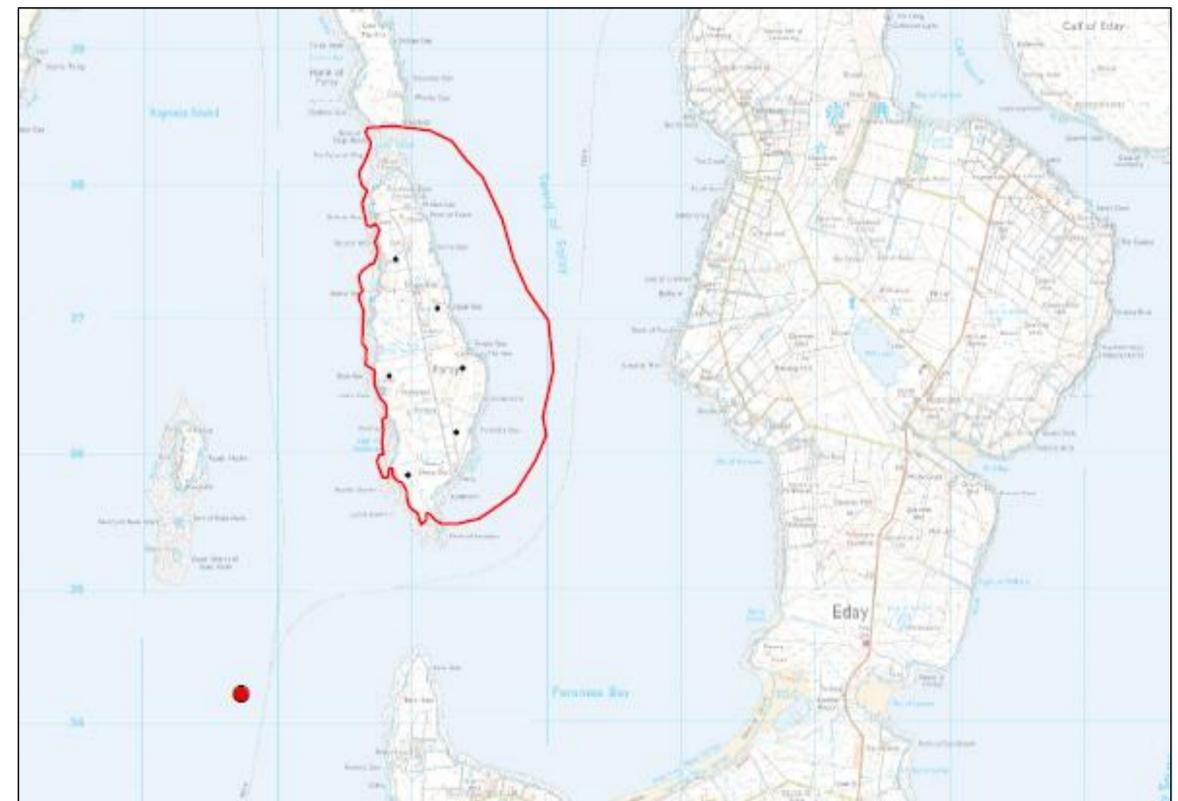




# View from Westray Ferry



**OS reference:** 351731, 1034215  
**Eye level:** 3.5m AOD  
**Direction of view:** 29°  
**Nearest turbine:** 2.045km  
**Horizontal field of view:** 53.5° (planar projection)





# View from Westray Ferry Terminal, Rapness



**OS reference:** 350871, 1040517  
**Eye level:** 5.28m AOD  
**Direction of view:** 151°  
**Nearest turbine:** 3.676km  
**Horizontal field of view:** 53.5° (planar projection)

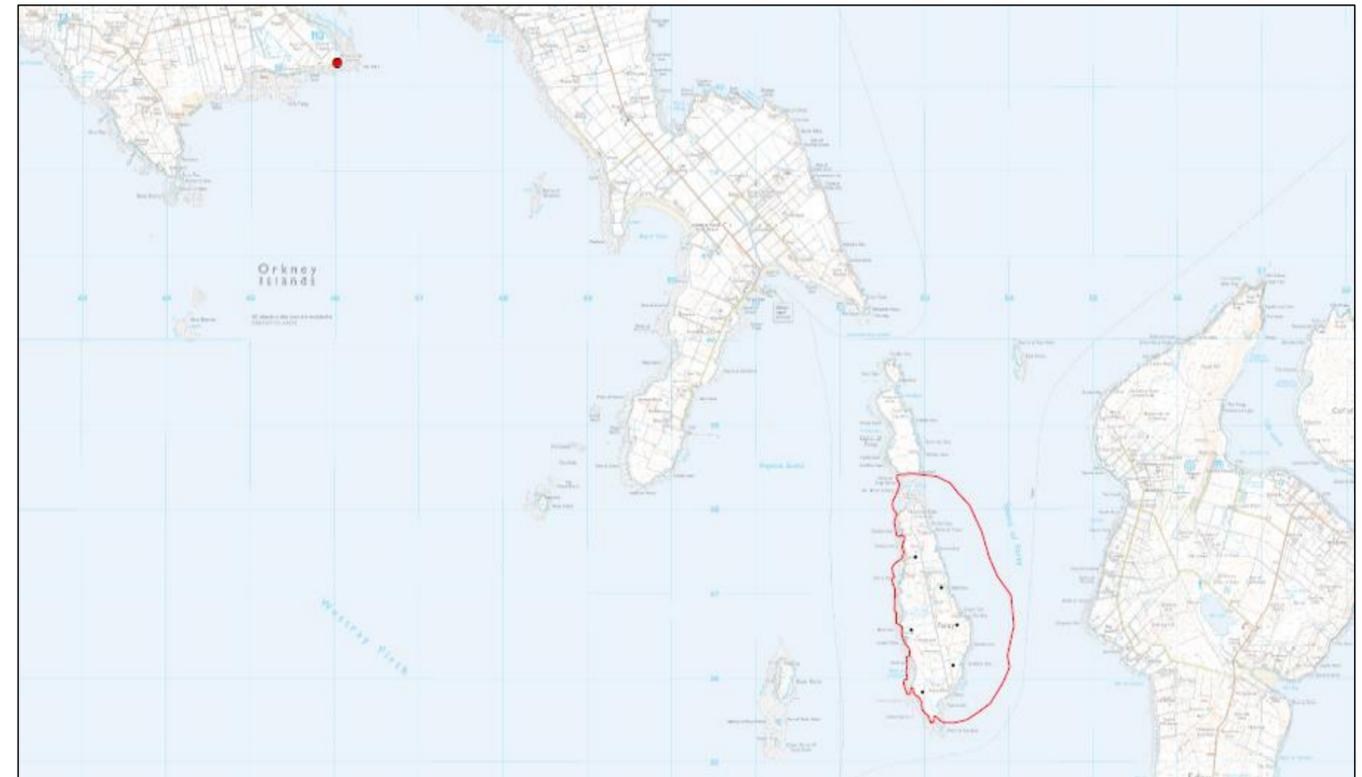




# View from Ness of Tuquoy



**OS reference:** 346023, 1043292  
**Eye level:** 4.22m AOD  
**Direction of view:** 134°  
**Nearest turbine:** 9.017km  
**Horizontal field of view:** 53.5° (planar projection)





# View from Kierfea Hill, Rousay



**OS reference:** 342319, 1032116  
**Eye level:** 236.29m AOD  
**Direction of view:** 67°  
**Nearest turbine:** 11.286km  
**Horizontal field of view:** 53.5° (planar projection)

